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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/057,946

01/29/2002

Yoshitaka Sasaki

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07/08/2004

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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,946

Applicant(s)

SASAKI ET AL.

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 9 and 19-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 12-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5-3-02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicants' election with traverse of Group I (claims 1-3, 8 and 10-18) in the reply filed on May 10, 2004 is acknowledged. The traversal is on the ground(s) that the "subject matter of all claims 1-32 and species is sufficiently related that a thorough search for the subject matter of any one Group of claims or species would encompass a search for the subject matter of the remaining claims and species." See Applicants' response filed May 10, 2004.

This is not found persuasive because the Examiner vigorously maintains that the claim groupings involve multiple inventions, which include different areas of classification and search, imposing a serious, strict and administrative burden upon the Examiner.

Additionally, it is noted that the Applicants did not traverse on the ground that the species are not patentably distinct. If the Applicants were to traverse on the ground that the species are not patentably distinct, the Applicants should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. If the Applicants were to include such a statement, the election requirement would be withdrawn. In either instance, however, if the Examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103 of the other invention.

The requirement is still deemed proper and is therefore made FINAL.

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Claims 4-7, 9 and 19-32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

It is noted that since claims 17 and 18 are dependent upon objected to claim 12, they have also been examined on the merits and the restriction requirement pertaining to dependent claims 17 and 18, which depend from indicated allowable claim 12, has been removed.

It is noted, however, that if Applicants were to amend claims 17 and 18, e.g., by changing the dependency from indicated allowable claim 12, the restriction requirement would be reconsidered and a new restriction requirement may be issued.

Applicants timely traversed the restriction (election) requirement in the reply filed on May 10, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Albert et al. (US 4,219,853).

As per claim 1 and claim 10 (and also claim 8, rejected *infra*), Albert et al. (US 4,219,853) discloses a thin-film magnetic head (e.g., FIG. 2) comprising: a recording head section (including write head (18) within layer (46)) having a recording head (18) and a first

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medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)) that faces toward a recording medium; and a reproducing head section (including read head (16) within layer (44)) having a reproducing head (16) and a second medium facing surface (air bearing surface of head at lower end of exposed poles (32R, 38R and gap 34R)) that faces toward the recording medium, wherein the recording head section (including write head (18) within layer (46)) and the reproducing head section (including read head (16) within layer (44)) are bonded to each other (i.e., fastened to each other via layer (44)) so that the first medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)) and the second medium facing surface (air bearing surface of head at lower end of exposed poles (32R, 38R and gap 34R)) are continuous. See, e.g., FIG. 2.

Additionally, as per claim 10, the first medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)) has concavities (e.g. area between the two projecting rail sections that include layer (46) as seen in FIG. 1) and convexities (rails that include layer portion (46) as seen in FIG. 1) for controlling the orientation of the slider (10) section while the recording medium is rotating,

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al. (US 4,219,853).

See the description of Albert et al. (US 4,219,853), *supra*.

As per claim 11, although Albert et al. (US 4,219,853) does not expressly disclose the reproducing head as a conventional magnetoresistive head, Official notice is taken that magnetoresistive head used in lieu of the induction-type read heads (16) as disclosed by Albert et al. (US 4,219,853) are notoriously old and well known and ubiquitous in the art; such Officially noticed fact being capable of instant and unquestionable demonstration as being well-known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a conventional magnetoresistive read head, in lieu of the induction read head (16) of Albert et al. (US 4,219,853).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a conventional magnetoresistive read head, in lieu of the induction read head (16) of Albert et al. (US 4,219,853), in order to allow for the reading of very small signals, which allows a much larger areal recording density and more data to be stored/retrieved on magnetic media real estate, as is well known, established and appreciated in the art.

Claims 2, 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al. (US 4,219,853) in view of Maffitt et al. (US 5,610,783).

See the description of Albert et al. (US 4,219,853), *supra*.

As per claim 2 and claim 8, Albert et al. (US 4,219,853) further discloses wherein: the recording head section (including write head (18) within layer (46)) includes a recording head

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section body (e.g., the support layer (46)) for accommodating the recording head (18), the recording head section body (46) having the first medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)) and a back surface (top surface of (46) as seen in FIG. 2) located on the opposite side from the first medium facing surface; the recording head (18) has a conductor (e.g., 26, 30) that is exposed in a rear surface and electrically connected to an external device (e.g., the device for sending signals to the head, not expressly shown but which necessarily must be provided in order for the head to function), and an induction-type electromagnetic transducer (18) electrically connected to the conductor (26, 30); the induction-type electromagnetic transducer (18) has: a thin-film coil (e.g., 20W) electrically connected to the conductor (26, 30); first (e.g., 32W) and second (e.g., 38W) pole portion layers opposed to each other and disposed near the first medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)); a magnetic-path-forming part (at or near 36W) that is disposed so as to surround a part of the thin-film coil (20W) and couples the first pole portion layer (32W) and the second pole portion layer (38W) to each other; and a gap part (34W) provided between the first and second pole portion layers (32W, 38W); each of the first and second pole portion layers (32W, 38W) has a protrusion (e.g., the pole tip portion of (32W and (38W which is exposed to the air bearing surface by protruding from the coil region (20W)) for defining a recording track width, the protrusion having an end surface exposed in the first medium facing surface (air bearing surface of head at lower end of exposed poles (32W, 38W and gap 34W)); and the thickness of each of the first and second pole portion layers (32W, 38W) defines a throat height. As is known, the throat height is the length

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portion of the poles (32W and 38W) from the ABS to the region of pole separation, at the portion of (40W).

As per claim 3, wherein: the reproducing head section (including read head (16) within layer (44)) includes a reproducing head section body (e.g., 10) for accommodating the reproducing head (16), the reproducing head section body (10) having the second medium facing surface (air bearing surface of head at lower end of exposed poles (32R, 38R and gap 34R)) and a back surface located on the opposite side from the second medium facing surface; and the reproducing head (16) has a conductor (24, 28) that is exposed in a rear surface (e.g., see FIG. 1) and electrically connected to an external device (to provide the ability to detect the read signals).

As per claims 2, 3 and 8, however, Albert et al. (US 4,219,853) does not expressly disclose wherein the exposed conductor (26, 28) and/or (24, 28) for providing electrical connection to an external device, is located on the back surface on the opposite side from the first/second medium facing surface; Albert et al. (US 4,219,853) shows such an exposed conductor on a rear side of the slider.

It is well known, however, of the advantages obtained by providing such an exposed conductor on the back side of the slider. For example, Maffitt et al. (US 5,610,783) discloses a slider wherein the exposed conductor for connecting an external device to the transducers is provided on the back side of the head in order to miniaturize the slider. See, e.g., COL. 1, lines 20-31 and FIGS. 3-6 of Maffitt et al. (US 5,610,783).

Given this general knowledge of such advantages of locating the exposed conductors on the back of the slider, as opposed to the rear of the slider, as exemplified by Maffitt et al. (US

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5,610,783), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the slider conductors of Albert et al. (US 4,219,853) as being on the slider back, as opposed to the slider rear surface, as is well known, exemplified by Maffitt et al. (US 5,610,783).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide slider conductors of Albert et al. (US 4,219,853) as being on the slider back, as opposed to the slider rear surface, as is well known, exemplified by Maffitt et al. (US 5,610,783) in order to, *inter alia*, allow advantageous miniaturization of the slider. See the discussion of the advantages as discussed by Maffitt et al. (US 5,610,783) at COL. 1, lines 13-31.

Additionally, as per claim 3, although Albert et al. (US 4,219,853), as applied to Maffitt et al. (US 5,610,783), does not expressly disclose the reproducing head as a conventional magnetoresistive head, Official notice is taken that magnetoresistive head used in lieu of the induction-type read heads (16) as disclosed by Albert et al. (US 4,219,853) are notoriously old and well known and ubiquitous in the art; such Officially noticed fact being capable of instant and unquestionable demonstration as being well-known.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a conventional magnetoresistive read head, in lieu of the induction read head (16) of Albert et al. (US 4,219,853), as applied to Maffitt et al. (US 5,610,783).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a conventional magnetoresistive read head, in lieu of the induction read head (16) of Albert et al. (US 4,219,853), as applied to Maffitt et al. (US 5,610,783) in order to allow for the reading of very small signals, which allows a much larger areal recording density and more data

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to be stored/retrieved on magnetic media real estate, as is well known, established and appreciated in the art.

Allowable Subject Matter

Claims 12-18 are currently objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

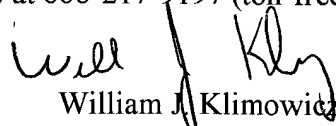
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK